

**The Knowledge Bank at The Ohio State University**  
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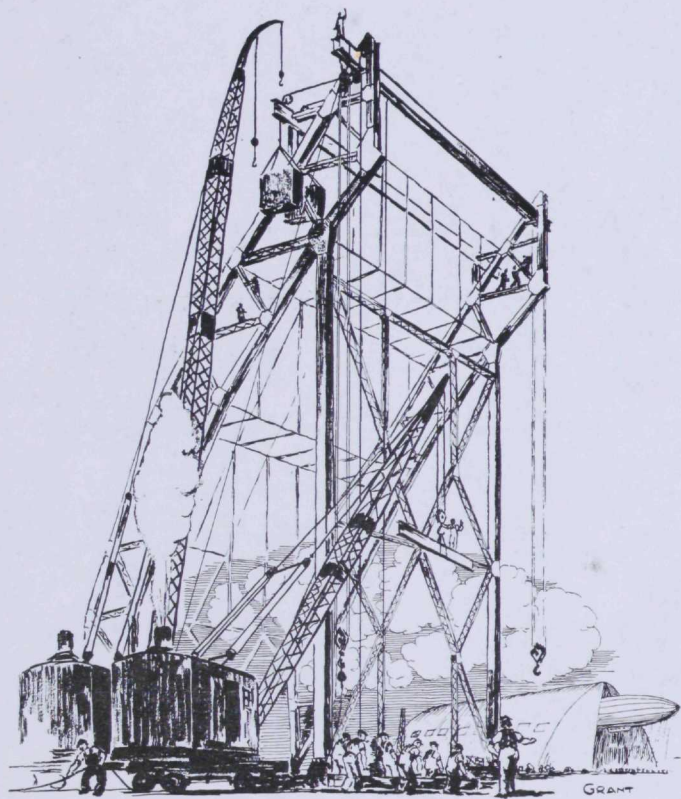
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# The Ohio State Engineer



January 1930

MEMBER OF ENGINEERING COLLEGE MAGAZINES ASSOCIATED





## Compressors

The gas compressors pictured below are typical of installations made by Ingersoll-Rand Company in many sections of the country.

Air and gas compressors—offered in a wide variety of sizes and types—constitute a major item in the line of products manufactured by this company.

INGERSOLL-RAND CO.  
11 Broadway • New York City  
*Branches or distributors in principal cities the world over*

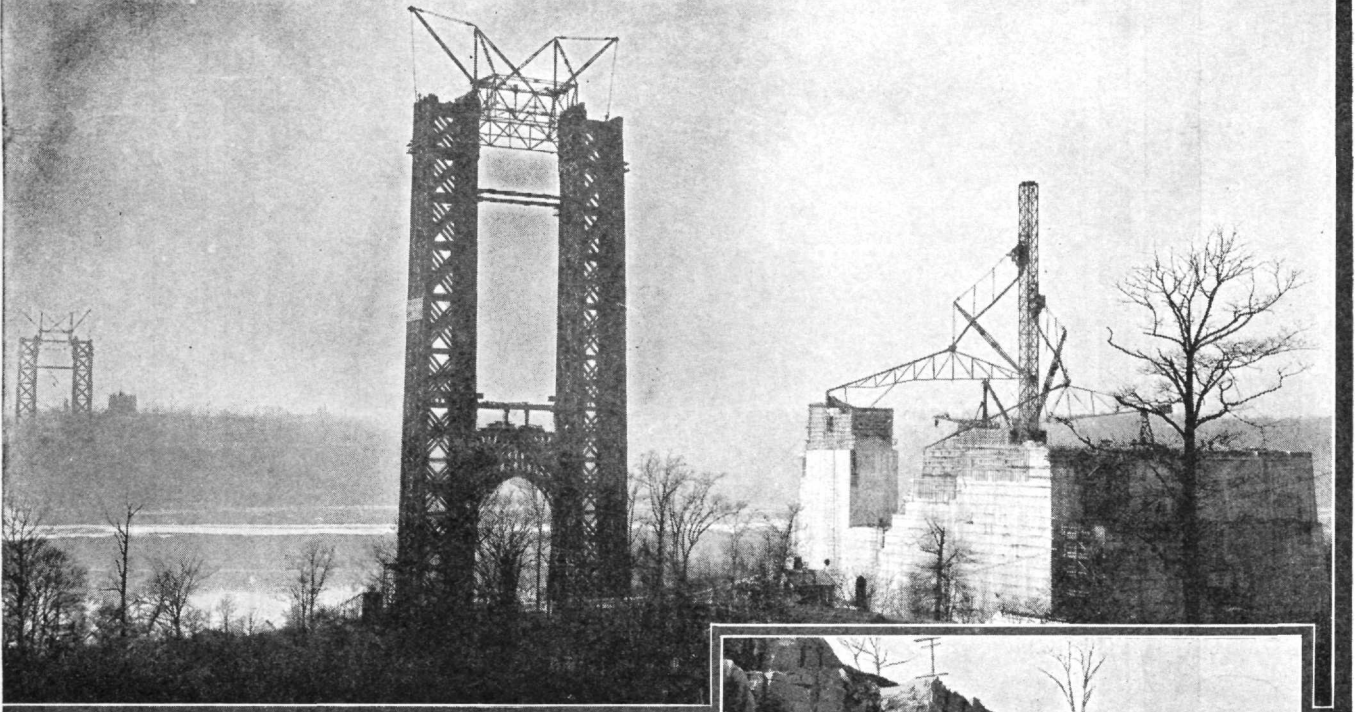


A large, complex industrial gas compressor is shown in a factory setting. The machine features a large flywheel on the left and a long, horizontal cylindrical body with various pipes and valves. It is mounted on a heavy base. In the background, other similar machinery and large windows are visible. A person is standing near the windows on the left. The floor has a checkered pattern. The number '32013' is visible on a pipe on the right side of the machine.

# Ingersoll-Rand



# KOEHRING



## Anchorage for the Longest Suspension Span

A bridge with a main suspension span of 3500 feet, the longest in the world, will soon cross the Hudson river at New York. Suspension will be maintained by four 36 inch cables supported on steel towers 635 feet above the water level.

Abutments on the Fort Lee approach are shown in preparation in the views at the right. Two Koehring Heavy Duty products, a power shovel for the rock excavation and a paving mixer for turning out the Dominant Strength Concrete, were used in this work.

The massive New York anchorage above, 200 feet by 300 feet ground dimension and 125 feet in height, contains 110,000 cubic yards of quality controlled concrete mixed by two Koehring Heavy Duty Mixers.

Another identification of the Koehring re-mixing action with a structure built to endure!

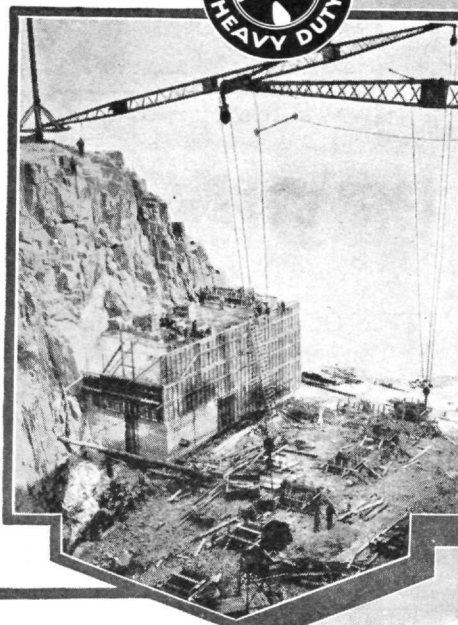
## KOEHRING COMPANY

MILWAUKEE, WISCONSIN

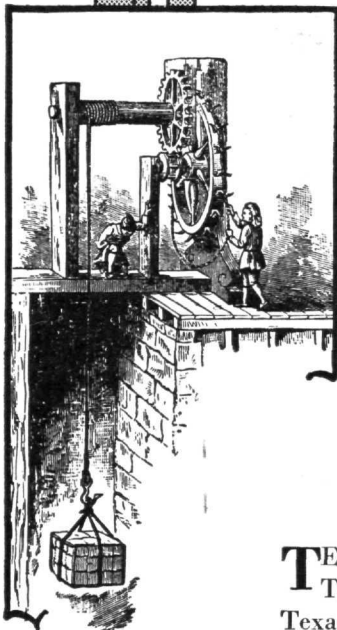
*Manufacturers of*

**Pavers, Mixers—Gasoline Shovels, Cranes and Draglines**

*Division of National Equipment Corporation*



The revised edition of "Concrete — Its Manufacture and Use," a complete treatise and handbook on present methods of preparing and handling portland cement concrete, is now ready for distribution. To engineering students, faculty members and others interested we shall gladly send a copy on request.



One of the early  
phases of Vertical  
Transportation

SMITH-YOUNG-TOWER BUILDING, SAN ANTONIO, TEXAS  
*Atlee B. Ayres — Robert M. Ayres, Architects*

## A New Skyscraper in the Southwest

**T**EN Otis Elevators of Signal Control and other types provide Vertical Transportation in the Smith-Young-Tower Building, San Antonio, Texas. This structure is one of the outstanding office buildings of the Southwest and its Vertical Transportation system is fully in keeping with other features of advanced design and construction.

**OTIS ELEVATOR COMPANY**  
OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

# THE OHIO STATE ENGINEER

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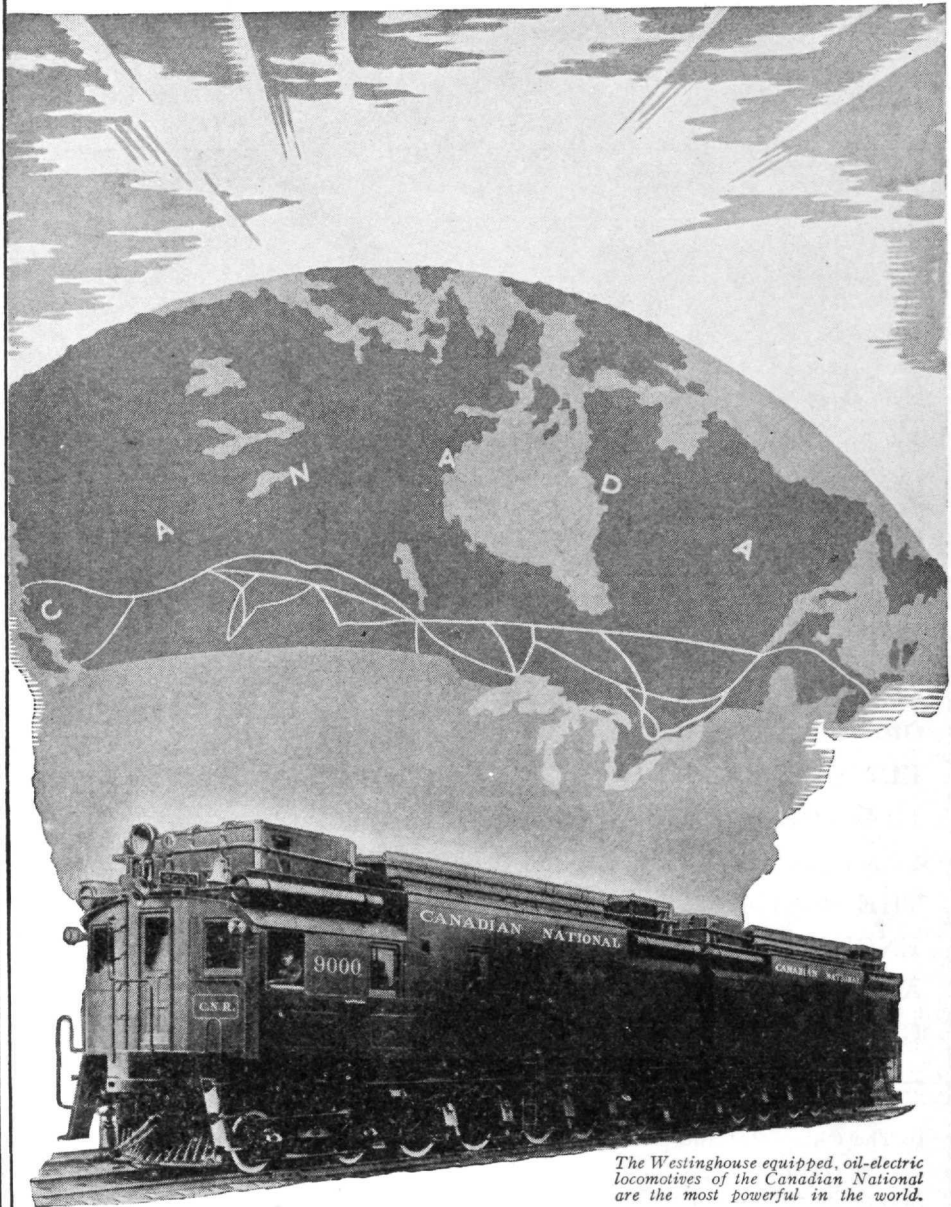


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## WHAT YOUNGER COLLEGE MEN ARE DOING WITH WESTINGHOUSE



*The Westinghouse equipped, oil-electric locomotives of the Canadian National are the most powerful in the world.*

### *The steam locomotive has a new rival*

ATTENTION in railway circles focuses this year on a spectacular undertaking by the Canadian National Railways—the electrification of certain trains on non-electrified lines.

One great oil-electric locomotive is already in service. The largest and most powerful of its type in the world, this giant electric locomotive that carries its own generating plant develops 2660 horsepower, uses only .43 lb. of fuel per horsepower-hour developed at full load.

Many interesting features are incorporated in its design. The speed and voltage of the engine-generators are automatically controlled by the power demands.

The engine exhaust is directed through automatically regulated economizers that heat the coaches and serve as well as mufflers. Control is placed at both ends, to enable running in either direction. Only in a difference in gearing need the passenger type units differ from those adapted to freight service.

In the development of this locomotive Westinghouse engineers co-operated with the Railway's own engineers and leading locomotive manufacturers and frame builders.

Every year hundreds of important jobs in which electricity is involved are delegated to Westinghouse, the clearing house for electrical development.



# Westinghouse